QC ABSTRACT

NAME OF WORK: Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Cement Concrete Pavemet (M30)	Compressive Strength(7days and 28days)	3 set /16-30 cum	24.96	6	6
6	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1

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7	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
8	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
9	TACK COAT	Rate of spread	One Test		1	1

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2020-07-03-03 **Date: 18-05-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 15-05-20

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 16-05-20

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.63	–
2	Finess by Air permeablity method (m^2/kg,Min)	298.4	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	140 minutes	Not less than 30 minutes
6	Final Setting time	250 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.0mm	Not more than 10 mm

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2020-07-03-03** **Date: 13-06-20**
Project Name	:	Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.
Agency	:	Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.
Customer's Reference	:	BBMP/EE/BTP/WO/11/2018-19
Date of Receipt	:	15-05-20
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	16-05-20
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-07-03-03** **Date: 18-05-20**
Project Name	:	Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.
Agency	:	Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.
Customer's Reference	:	BBMP/EE/BTP/WO/11/2018-19
Date of Receipt	:	15-05-20
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	15-05-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	589	589	3.9	96.1	90-100
3	20 mm	4898	5487	36.6	63.4	30-70
4	10 mm	7143	12630	84.2	15.8	10-35
5	4.75 mm	2118	14748	98.3	1.7	0-5
6	Pan	252	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2020-07-03-03** **Date: 18-05-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.4	
3	Specific Gravity	2.67	–
4	Bulk Density(Loose) (Kg/l)	1.42	–
5	Bulk Density(Compacted) (Kg/l)	1.47	–
6	Water Absorption(%)	0.38	–

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2020-07-03-03** **Date: 17-05-20**
Project Name	:	Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.
Agency	:	Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.
Customer Reference	:	BBMP/EE/BTP/WO/11/2018-19
Date of Receipt	:	15-05-20
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	15-05-20

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	198	198	4.0	96.0	90-100
3	10 mm	3150	3348	67.0	33.0	25-55
4	4.75 mm	1457	4805	96.1	3.9	0-10
5	Pan	195	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2020-07-03-03** **Date: 17-05-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.65	_
4	Bulk Density(Loose) (Kg/l)	1.53	_
5	Bulk Density(Compacted) (Kg/l)	1.55	_
6	Water Absorption(%)	0.25	_
7	Aggregate crushing Value(%)	24.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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R KARTHIK RECHAN
Authorized Signature
Quality Manager

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ಮಲ್ಲೇಶ್ವರಂ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು-3

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-07-03-03** **Date: 17-05-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 15-05-20

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 15-05-20

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2020-07-03-03** **Date: 17-05-20**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-07-03-03** **Date: 30/05/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/05/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	151.88 X 151.97 X 149.82	23080	**8.800**	588.3	25.5	25.6
2	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	151.24 X 150.82 X 151.19	22810	**8.200**	605.4	26.5	
3	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	151.43 X 150.67 X 150.09	22816	**8.721**	567.7	24.9	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-07-03-03** **Date: 20/06/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/06/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	149.57 X 151.68 X 150.07	22688	8.260	754.7	33.3	
2	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	150.34 X 150.56 X 150.04	22634	8.192	725.4	32.0	32.9
3	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	150.95 X 151.59 X 151.45	22882	8.848	766.3	33.5	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-07-03-03** **Date: 30/05/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/05/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	149.50 X 151.74 X 151.33	22685	8.800	582.9	25.7	25.7
2	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	151.83 X 150.55 X 150.56	22857	8.200	609.6	26.7	
3	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	150.02 X 151.81 X 149.70	22774	8.721	566.1	24.9	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-07-03-03 **Date: 20/06/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/06/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	151.33 X 151.75 X 151.09	22965	8.260	764.0	33.3	33.0
2	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	150.35 X 149.22 X 151.45	22435	8.192	722.4	32.2	
3	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	151.71 X 150.16 X 150.97	22780	8.848	766.4	33.6	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-07-03-03** **Date: 30/05/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/05/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	150.00 X 149.21 X 150.26	22381	8.800	561.2	25.1	25.3
2	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	151.11 X 150.21 X 149.56	22698	8.200	603.6	26.6	
3	Cement Concrete Pavement	M30	23/05/2020	30/05/2020	149.75 X 149.48 X 150.80	22385	8.721	545.7	24.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-07-03-03 **Date: 20/06/2020**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 25-05-20

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/06/2020

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	151.18 X 150.13 X 151.45	22697	8.260	763.7	33.6	33.2
2	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	149.13 X 149.79 X 150.73	22339	8.192	735.6	32.9	
3	Cement Concrete Pavement	M30	23/05/2020	20/06/2020	150.34 X 151.29 X 150.44	22745	8.848	754.1	33.2	

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2020-07-03-03** **Date: 28-05-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 26-05-20

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 26-05-20

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2020-07-03-03** **Date: 28-05-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 26-05-20

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 26-05-20

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2020-07-03-03** **Date: 28-05-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 26-05-20

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 26-05-20

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : CP-RW-2020-07-03-03 **Date: 04-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 02-06-20

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 02-06-20

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-RW-2020-07-03-03** **Date: 05-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 02-06-20

Type of Mix : BC(Bitumenous Concrete)

Date of test : 02-06-20

Type of Binder : 60/70

% of Binder Used : 5.0%

Weight of Aggregate : 200.0 gm

Weight of Binder : 10.0 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : **CP-RW-2020-07-03-03** **Date: 05-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 02-06-20

Type of Mix : BC (Bituminous Concrete)

Date of test : 02-06-20

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

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TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2020-07-03-03** **Date: 05-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 02-06-20

Type of Mix : BC (Bituminous Concrete)

Date of test : 02-06-20

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	_

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2020-07-03-03** **Date: 09-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 08-06-20

Type of Mix : BC (Bituminous Concrete)

Date of test : 08-06-20

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	470	469
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	6.00	6.20
4	Average percentage	%	6.1	

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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Lab ID : **CP-RW-2020-07-03-03** **Date: 09-06-20**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 470

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.9	99.1	90-100
9.5	62	66	14.0	86.0	70-88
4.75	112	178	37.9	62.1	53-71
2.36	88	266	56.6	43.4	42-58
1.18	29	295	62.8	37.2	34-48
0.6	11	306	65.1	34.9	26-38
0.3	46	352	74.9	25.1	18-28
0.15	45	397	84.5	15.5	12-20
0.075	51	448	95.3	4.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 469

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.9	99.1	90-100
9.5	62	66	14.1	85.9	70-88
4.75	112	178	38.0	62.0	53-71
2.36	88	266	56.7	43.3	42-58
1.18	29	295	62.9	37.1	34-48
0.6	11	306	65.2	34.8	26-38
0.3	46	352	75.1	24.9	18-28
0.15	45	397	84.6	15.4	12-20
0.075	49	446	95.1	4.9	4-10

CIVIL Pro Date 09-06-20 BANGALORE

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End of Report

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
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TEST REPORT ON BITUMEN

Lab ID : **CP-RW-2020-07-03-03** **Date: 01-06-20**

Project Name : Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer's Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 30-05-20

Sample Type : Bitumen

Reference to BIS codes : IS: 1201-1220(1978) (Reaffirmed-2004)

Date of test : 30-05-20

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	64	60 to 70
2	Softening Point, °C	51.2	Min. 40°C
3	Ductility, cm	98	Min. 75cm
4	Flash point, °C	245	Min. 220°C
	Fire point, °C	272	

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CIVIL PRO BANGALORE Sig. Date

FOR CIVIL Pro.

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Quality Manager

****End of Report****

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2020-07-03-03 **Date: 09-06-20**

Project Name :

Package2, includes 5 works 1)Improvements to Roads and Drains at Mariyannapalya Church to Defence Layout and Dynasty Layout in Ward No:06 Byatarayanapura Sub Division. 2)Improvements to Drains and Asphalting to Roads at Balaji layout Near Railway Gate in Ward No:06 Byatarayanapura Sub Division. 3)Improvements to Drains and Asphalting to Roads at Vidyasagara Layout and Surrounding area in Ward No: 06 Byatarayanapura Sub Division. 4)Improvements to Drains and Asphalting to Roads at Bharathnagara saw mill Road in Ward No: 06 Byatarayanapura Sub Division. 5) Improvements to Drains and Asphalting to Roads at Shiradi Sai Nagar and Hegadenagar in Ward No:06 Byatarayanapura Sub Division.

Agency : Sri.G. Venkatesh, No.623/A, 11th Main, HAL 2nd Stage, Indiranagar, Bangalore-560008.

Customer Reference : BBMP/EE/BTP/WO/11/2018-19

Date of Receipt : 08-06-20

Type of Mix : Tack coat

Date of test : 08-06-20

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

CIVIL PRO Date

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
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